WE CLAIM:

1.   A computer-based method for reporting data network monitoring information, comprising:

accessing a set of performance metric values for a network component;

generating a trace comprising graph data points based on the performance metric values;

for a selected histogram range of the trace, building a histogram corresponding to the graph data points; and

for a user interface, generating a performance monitoring display concurrently including a graph of the trace relative to an x-axis and a y-axis and a representation of the histogram.

2.   The method of claim 1, wherein the performance metric values are values discovered for the network component or derived from the discovered values.

3.   The method of claim 2, wherein the y-axis of the graphed trace includes ranges of values for the performance metric values and the histogram building includes reusing the ranges of values as metric value ranges for the histogram.

4.   The method of claim 3, wherein the histogram and the trace graph are adjacent with the x-axis of the histogram being parallel to the y-axis of the trace graph.

5.   The method of claim 4, further including in the user interface displaying a selection mechanism movable by a user of the user interface to define the selected histogram range.

6.   The method of claim 1, wherein each of the graph data points in the trace corresponds to a histogram built from the performance metric values and the trace is generated by determining and plotting an average value of each of the graph data point histograms.

7.   The method of claim 6, wherein the building of the histogram for the performance monitoring display includes combining the graph data point histograms corresponding to the graph data points in the selected histogram range.

8.   The method of claim 7, further including receiving a time period from a user, and wherein the accessing includes retrieving the set of performance metric values for the received time period.

9.   A method of compressing and storing data network performance information, comprising:

determining performance metrics for a component of a data network;

storing the performance metrics in memory;

repeating the determining and the storing for a data collection period;

after expiration of the data collection period, building a histogram from the stored performance metrics; and

storing the histogram in the memory.

10.   The method of claim 9, upon expiration of a real time storage period, deleting the stored performance metrics from the memory.

11.   The method of claim 9, further comprising:

repeating the determining, the performance metrics storing, the building, and the histogram storing to store additional histograms in the memory;

after the expiration of a second level data collection period, building a second level histogram from the stored histogram and additional histograms; and

storing the second level histogram in the memory.

12.   A user interface for a computer monitor, comprising:

a first graphical representation plotting a trace relative to an x-axis and a y-axis, the trace comprising a plurality of data points representing a network performance metric for a network component, wherein the first graphical representation includes a histogram range selector defining a subset of the trace; and

a second graphical representation illustrating a histogram corresponding to a set of the data points in the subset of the trace defined by the histogram range selector.

13.   The user interface of claim 12, wherein the histogram range selector is adjustable by a user of the user interface to redefine the subset of the trace used to define the histogram.

14.   The user interface of claim 12, wherein the data points in the trace are averages determined by processing previously built histograms for the network performance metric for the network component corresponding to the data points.

15.   The user interface of claim 14, wherein the histogram of the second graphical representation comprises a collection of the previously built histograms corresponding to the data points in the subset of the trace.

16.   The user interface of claim 14, wherein the histogram of the second graphical representation includes an x-axis parallel to the y-axis of the first graphical representation with matching value divisions.

17.   The user interface of claim 12, wherein the first graphical representation includes a trend line illustrating a trend calculated for the data points of the trace.

18.   The user interface of claim 12, wherein the first graphical representation includes a running average line illustrating a running average calculated for the data points of the trace.

19.   A computer program product for use with a graphics display device, comprising:

a computer readable program code means for causing a computer to access a set of performance metric values for a network component;

5   a computer readable program code means for causing a computer to generate a trace comprising graph data points based on the performance metric values;

a computer readable program code means for causing a computer for a selected histogram range of the trace to build a histogram corresponding to the graph data points; and

10   a computer readable program code means for causing a computer to generate for a user interface a performance monitoring display including a graph of the trace relative to an x-axis and a y-axis and a representation of the histogram;

wherein each of the graph data points in the trace corresponds to a histogram built from the performance metric values and the trace is generated by determining

15   and plotting an average value of each of the graph data point histograms.

20.   The computer program product of claim 19, wherein the histogram and the trace graph are adjacent with the x-axis of the histogram being parallel to the y-axis of the trace graph.